



Docket No.: 500.44034X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

Makio MIZUNO

Serial No. 10/764,600

Filed: January 27, 2004

For: STORAGE SYSTEM

SUPPLEMENTAL REQUEST FOR RECONSIDERATION

June 16, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Supplemental to the Request for Reconsideration filed on March 28, 2005, in view of the meeting between Mr. Brundidge and Mr. Laufer held on May 9, 2005 clarifying issues related to the granting of Petitions to Make Special, Applicant submits the following additional remarks.

It is submitted that the cited references, whether considered alone or in combination, fail to disclose or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to disclose or suggest in combination with the other limitations recited in the claims:

a first feature of the present invention as recited in independent claim 1 wherein a cache storage system that includes a controller and a device, where

the controller controls the device to temporarily store block data which designate a logical address on a storage medium and a data length; and

a second feature of the present invention as recited in independent claim 16 wherein a proxy device connected to a network and disposed between a client and a cache storage system for acting as a substitute for the client, wherein the proxy device acquires information for identifying the cache storage system from a computer, executes client's access to at least one storage device through the cache storage system in place of the client on the basis of the identifying information and sends a result of the execution to the client.

To the extent applicable to the present Petition, Applicants submit that although the distinguishing feature(s) may represent a substantial portion of the claimed invention, the claimed invention including said feature(s) and their inter-operation provides a novel storage system and system and method related to or implemented in or by said storage system not taught or suggested by any of the references of record.

The references considered most closely related to the claimed invention are briefly discussed below:

U.S. Patent No. 5,948,062 (Tzelnic et al.) discloses for network file access, a plurality of data mover computers are linked to a cached disk array. Read-write files stored in the cached disk array are accessible to network clients through more than one of the data mover computers so that the data mover computers are not a bottleneck to file access. The cached disk array stores a network file directory including file locking information, and the data mover

computers each have file system software that accesses the network file directory for shared read-write file access. The data mover computers perform the file system tasks such as managing the file directory for mapping of file names to logical blocks and for locking and unlocking of the files in order to minimize loading on the cached disk array. Therefore, the network file server need not use any particular one of the data mover computers to serve as a control point for read-write file access. Instead, file system software for managing the file directory is replicated in each data mover computer. The cached disk array recognizes logical block addresses, and the cached disk array has a limited internal locking facility ensuring that reading or writing to a logical block is an atomic operation. Preferably the data mover computers are commodity personal computers. Tzelnic et al., unlike the present invention, does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1 and the above described second feature of the present invention as recited in independent claim 16, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2003/0140207 A1 (Nagase et al.) discloses a method for managing data stored in a hierarchical storage unit of a storage apparatus is disclosed. The storage unit includes a first storage medium having a first access speed and a second storage medium having a second access speed. The first access speed is different from the second access speed. The method comprises determining a first access frequency for information of first type, the first access frequency being associated with a first period of past time.

A second access frequency of the information of first type is determined. The second access frequency is associated with a second period of past time and is different than the first access frequency. At least a portion of the information of first type is transferred from the first storage medium to the second storage medium prior to a second period based on the second access frequency determined in the determining-a-second-access-frequency step, the second period corresponding to the second period of past time. Nagase et al., unlike the present invention, does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1 and the above described second feature of the present invention as recited in independent claim 16, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2003/0204677 A1 (Bergsten) discloses a system, method and apparatus for providing and utilizing a storage cache descriptor by a storage controller. This provides the ability to effectively balance size of storage controller cache blocks and amount of data transferred in anticipation of requests, such as requests by a host. An electronic data storage apparatus may include a storage device, a storage controller and a cache. The storage controller is communicatively coupled to the storage device, and is suitable for controlling data storage operations of the storage device. The cache is communicatively coupled to the storage controller, the cache suitable for storing electronic data for access by the storage controller. The storage controller stores electronic data in the cache by including a cache descriptor that

defines data contained in a cache block, the cache descriptor including at least one field describing a device block of the cache block. Bergsten, unlike the present invention, does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1 and the above described second feature of the present invention as recited in independent claim 16, in combination with the other limitations recited in each of the independent claims.

U.S. Patent Publication No. 2004/0148479 A1 (Patel et al.) discloses a method, system, and program for transferring data from a source storage unit, wherein storage units are configured within a storage system. A data transfer operation is processed to transfer data from source storage blocks in a source storage unit to corresponding target storage blocks in a target storage unit. For each source storage block, before transferring data from one source storage block to the corresponding target storage block, indication is made that the source storage block is in a locked state. Data in the source storage block in the locked state is not accessible to a host data request, and wherein data in storage blocks that are not in the locked state is accessible to a host data request while the data transfer operation is pending. Indication is further made that the source storage block is not in the locked state after transferring the data in the source storage block to the corresponding target storage block. Patel et al., unlike the present invention, does not disclose or suggest the above described first feature of the present invention as recited in independent claim 1 and the above

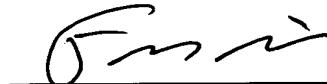
described second feature of the present invention as recited in independent claim 16, in combination with the other limitations recited in each of the independent claims.

Therefore, since the cited references fail to disclose or suggest the above described first feature of the present invention as recited in independent claim 1 and the above described second feature of the present invention as recited in independent claim 16, in combination with the other limitations recited in each of the independent claims, it is submitted that all of the claims are patentable over the cited references whether said references are taken individually or in combination with each other.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

Respectfully submitted,

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